



MEASUREMENT & ANALYTICS

P-100 Series & IO-Link Communication

Measurement made easy in space, on the ocean floor, and everywhere in between

ABB

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IO-Link

A universal, smart,
and easy communication

IO-Link technology

What is IO-Link?

IO-Link is a serial digital communication protocol intended to be used in automation technology.

UNIVERSAL It is defined by **IEC 61131-9** standard, where only binary states (on/off) or analog signals have been transmitted so far; now it is possible to **read status** information from a sensor and **write parameterization** information to the sensor.

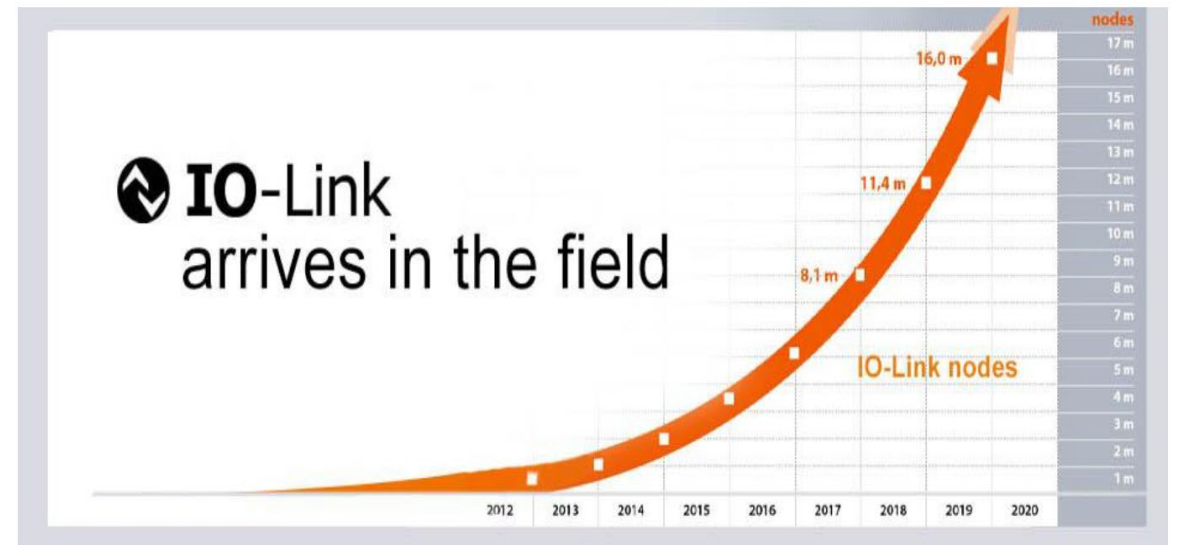
SMART IO-link connects sensors to a programmable logic controller (PLC); in a way IO-Link provides digitalization of the “**last meter**” of the communication link to the sensors (20 mt max lengths).

EASY The **point-to-point connection** is set up using M12 connector and an unshielded three-core cable. One of the three conductors is used for communication, one for power supply to the device electronics and one as the common reference potential.

[Was ist IO-Link? - YouTube](#)

The IO-Link digital communication is not just another bus system it is a point-to-point connection between the **IO-Link device** and a link device, namely an **IO-Link master**.

The number of installed IO-Link nodes continues to rapidly grow as many companies move to IO-Link-based sensors .



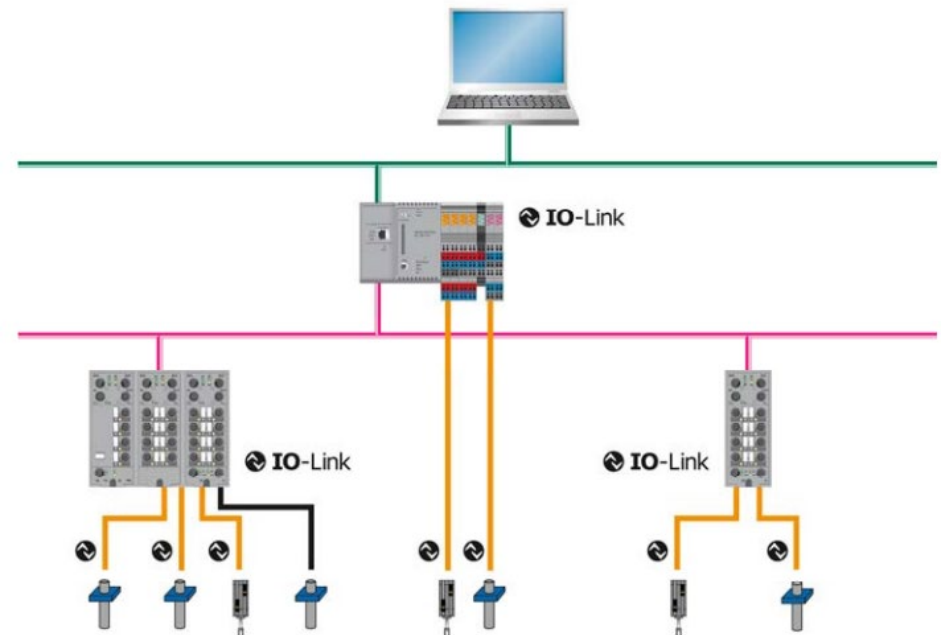
IO-Link technology

Why IO-Link?

The IO-Link technology uses serial communication instead of the linking methods of digital and analog sensors used so far. This communication method allows for the transmission of parameterization and diagnostic data to/from the sensor.

- 1. Simple Installation: Plug & Play Capability**
Usage of IO-Link decreases the number of different interfaces or connector plugs in your system.
- 1. Expanded Diagnostic: Device's Integrated Diagnostic**
Digital communication can lead to reduction in system downtimes through predictive maintenance.
- 1. Parameter Setting: Auto & Remote Parametrization**
The parameter definitions of IO-Link sensors can be modified while the system is operating.

..didn't know that: "IO-Link (www.io-link.com) was launched in 2009 with 41 member companies committed to the protocol. IO-Link has been growing at a fast rate, with more than 100 member companies in the IO-Link organization."



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P-100 with IO-Link

Where do we want to
sell it?

P-100, The Essential Pressure Transmitter

Positioning Outlook | Target markets for P-100 series with IO-Link

WATER & WASTEWATER



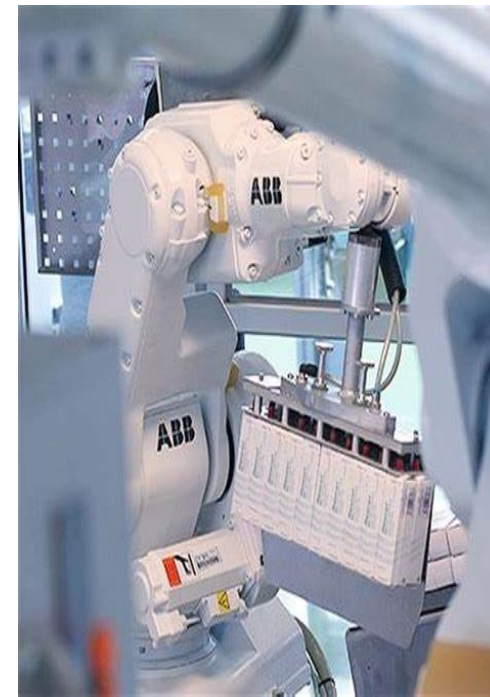
FOOD & BEVERAGE



PHARMACEUTICAL



PACKAGING INDUSTRY



OEM & MACHINE BUILDERS



P-100, The Essential Pressure Transmitter

Industry standard & specific approvals

3A

The 3-A Sanitary Standards are American standards related to the design and production of equipment intended for contact with food.



FDA APPROVED FILLING

FDA approval is the American standard that a filling fluid for a pressure device needs to comply with so as protect people health in case of contact. PxF100 is equipped with Mineral & Vegetal FDA-approved oil option.



EHEDG

EHEDG (European Hygienic Engineering and Design Group) is a European-based certification that can be obtained if a product is designed and produced according to hygienic principles.



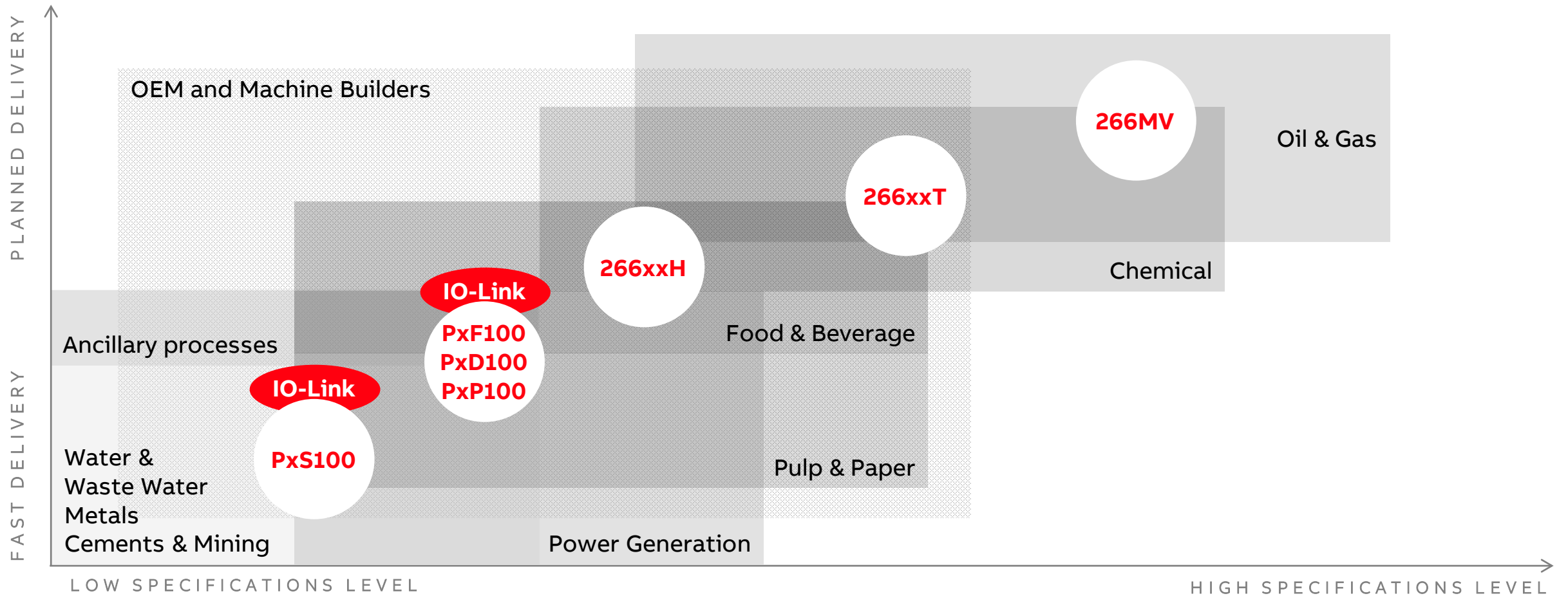
1935/2004

1935/2004 is a regulation of the European Parliament and of the Council on materials and articles intended to come into contact with food



P-100, The Essential Pressure Transmitter

Positioning outlook



P-100, The Essential Pressure Transmitter

IO-link target industries, requirements, and P-100 overall key value propositions

INDUSTRY

- Food & Beverage
- Water & Waste
- Pharmaceutical Industry
- OEM Machine building
- Packaging Industry

MARKET REQUIREMENTS

- Integrated Digitalization
- Specific Industry approval
- Industry Process Connections
- Cleaning & Sanitization
- Corrosion & Abrasion resistance
- Easy access and operability
- Low Cost of Ownership

KEY PROPOSITIONS

- IO-Link communication
- Highest Standard Compliance
- Connection Flexibility
- Robustness, Vibration resistance
- Special Coating material
- Backlit display on HMI
- Innovative Xenoy™ material




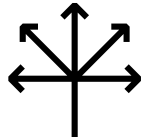




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Market requirements

How to fulfill them?

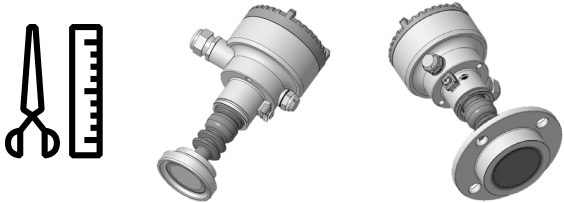
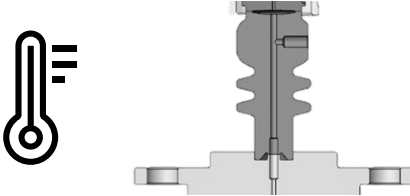

P-100, The Essential Pressure Transmitter

Industry critical requirements

	CRITICALITY	SOLUTION	
DIGITALIZATION	Increase speed of reaction in case of failure, field support & easiness to manage, machine integration (Smart Factory).	Digital Advanced Diagnostic & IO-Link protocol allows simple installation, expanded diagnostic (DAD) and smart auto-parametrization.	  
INDUSTRY STANDARD	Availability of specific industry approvals to comply with high demanding applications	Combined application approval for process connection + hygienic adapters (3A & EHEDG approval).	 
LOW COST OF OWNERSHIP	High pressure in limiting non-mandatory costs (e.g. costs not related to safety and/or performance)	Xenoy™ Housing deliver a weight half of stainless-steel housing plus the Through The Cover (TTC) capability for device configuration without the need to open the cover	  



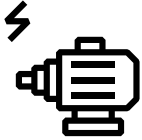

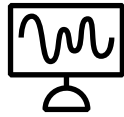

P-100, The Essential Pressure Transmitter

Industry critical requirements

	CRITICALITY	SOLUTION
SPECIFIC FITTINGS	Different food & beverage processes require different fitting (e.g. dairy VS juices, etc)	Different classes of sanitary fittings, Front Bonded Diaphragms & M26 manifolds. 
CLEANING & SANITIZATION	F&B machineries & plants need to be periodically cleaned to avoid bacteria formations and to ensure high hygiene levels	Capability of resisting to CIP and SIP  Heat Dissipation Geometry
CORROSIVE & ABRASION RESISTANCE	Suspended particles in high velocity media or corrosive process media.	Diaflex (ABB unique anti-abrasive coating) and PFA coatings. 

P-100, The Essential Pressure Transmitter

Industry critical requirements

	CRITICALITY	SOLUTION
HMI AND BACKLIT DISPLAY	Impossible to read display and operate device in low light conditions	New backlit display  
VIBRATION RESISTANCE, ROBUSTNESS	Vibration / condensation humidity often lead to device failure.	Stainless steel housing with IP66/7/8/9K.  
INTEROPERABILITY WITH ASSET MANAGEMENT.	No information between AM and FID lead to unforeseen failures & productivity loss	Availability of full set of integration tools  

P-100 Series & IO-Link communication

Pioneering digital
connectivity

P-100 Series

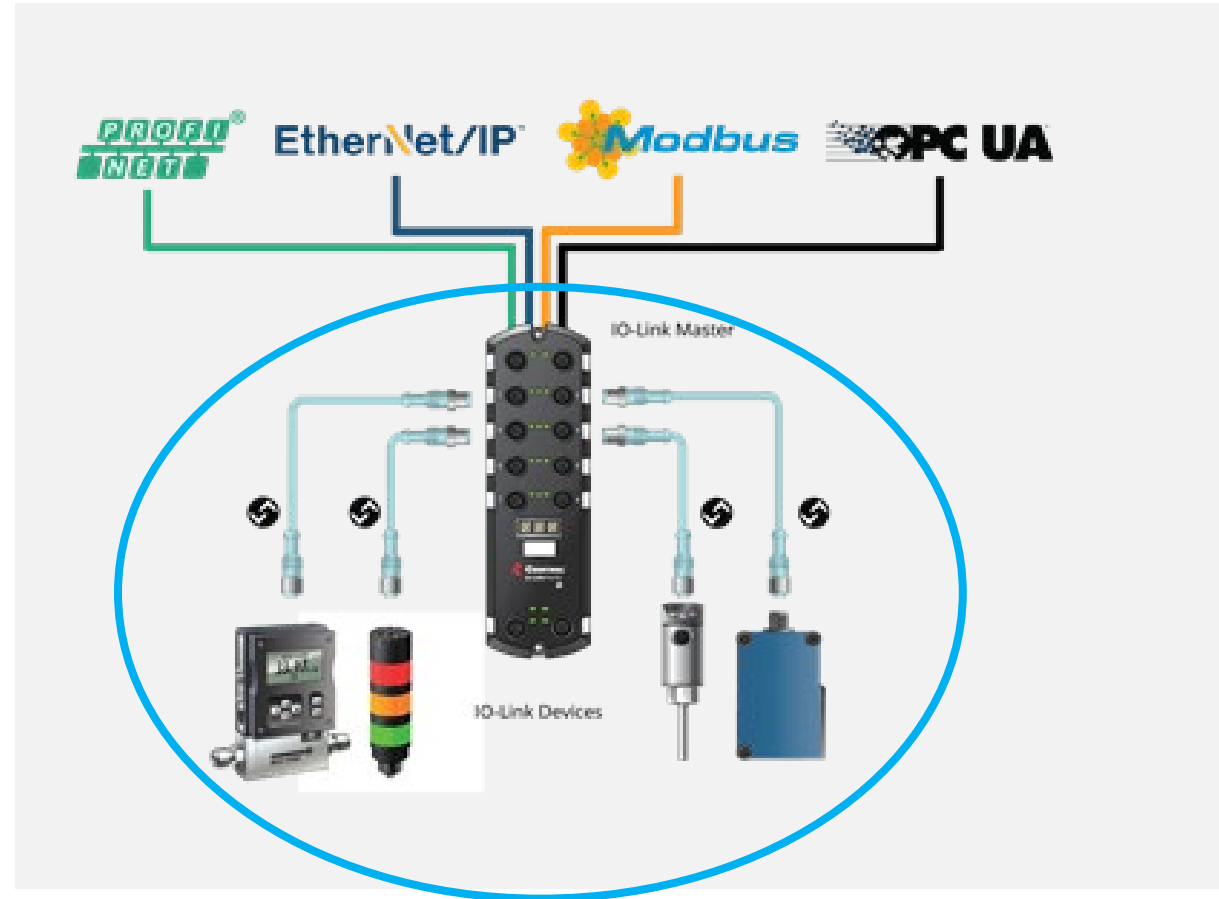
With IO-Link communication

IO-Link COMMUNICATION ADVANTAGES

- Simplicity to use in comparison to FF or PA
- Standard cabling VS expensive cables used in FF or PA
- Quick connection through the embedded M12 connection
- High speed communication allows better process control
- Real time availability of process and diagnostic information

P-100 WITH IO-Link ADVANTAGES

- Possibility to retrofit and substitute old devices (binary sensor usage) while benefitting local configuration
- Additional outputs (4..20 mA and secondary digital output)
- Additional functionalities on output configurations
- Advanced backlight configurability (ON/OFF, alarm blinking, dependance from Digital Output, etc)



P-100 Series & IO-Link communication

General IO-Link specification

Main IO-Link Specification

- Serial: 32byte+32Byte
- Bidirectional: Read & Write
- Cyclic and acyclic data
- 3 Speeds: 4.8, 38.4 and 230.4 kBaud
- 2 Methods: SIO-mode and I/O Link mode
- Profiles define:
 - How the data is structured
 - What parameters should be supported
 - How you can access your data
- Profiles do not depend on the manufacturer

IODD – IO Device Description

It is an xml file containing:

- Vendor ID & Manufacturer Product ID
- Description of process data
- Parameter description
- Graphic Information



MANUFACTURER'S DECLARATION OF CONFORMITY

We:

ABB S.p.A.

Via Luigi Vaccani 4, Tremezzina (CO), 22016, Italy

declare under our own responsibility that the product(s):

Pxx100 Pressure Transmitters IO-Link Device

to which this declaration refers conform to:

- IO-Link Interface and System Specification, V1.1.3, June 2019 (NOTE 1,2)
- IO Device Description, V1.1.3, January 2021
- Additional conformance to Device Profiles (If checked refer to Part A on page 2)
- Conformance exceptions (If checked refer to Part B on page 2)

The conformity tests are documented in the test report(s):

3KXP000045G0439 - Pxx100 phase2 - Physical layer test
3KXP000045G0539 - Pxx100 phase2 - Device Protocol Test
226180E-b Report IoLINK Specification; 226180E-a Report EN 61326-1

Issued at ABB

Authorized signatory

Name: Giorgio Saldarini

Title: R&D Manager

Signature: *Giorgio Saldarini*

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NOTE 1 Relevant Test specification is V1.1.3, January 2021

NOTE 2 Additional validity in Package 2020 and Corrigendum

MD-Version: V1.1.3 / 2022-01

P-100 Series & IO-Link communication

IO-Link interface – connection technology specific on Pxx100

Pxx10 electr. connection Port Class A pin assignment :

Pin	Signal	Core color
1	L+	BN - brown
2	I/Q (i.e. D/O)	WH - white
3	L-	BU - blue
4	C/Q	BK- black

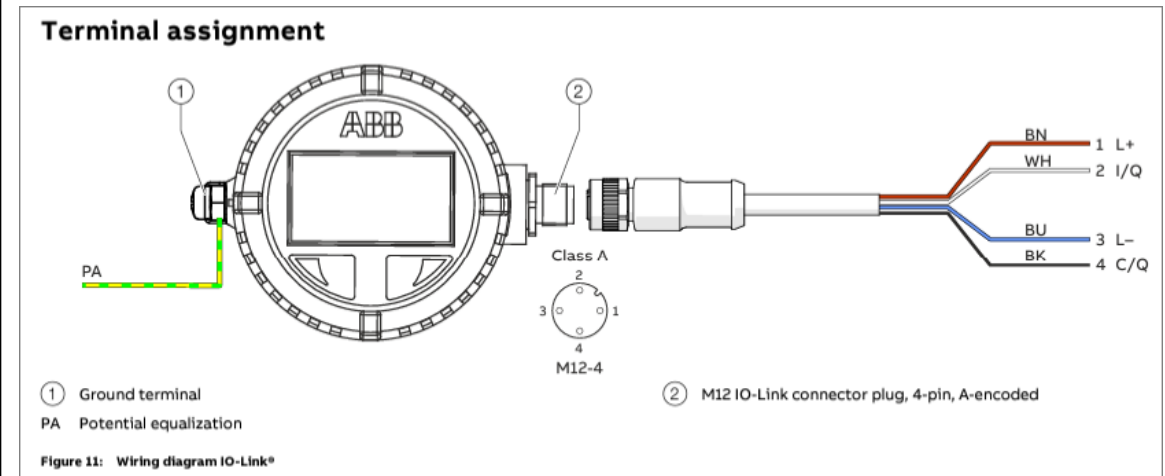
← Pin 2 : digital Input/Output

Pxx100 Output functions :

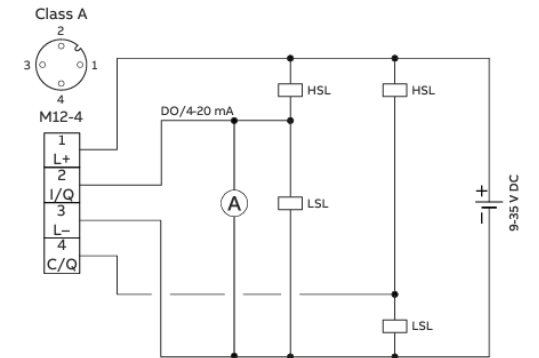
Transistor output functions	
Output 1	IO-Link or transistor output
Output 2	4 to 20 mA or transistor output
Transistor mode	PNP, NPN, PP

Current output 4 to 20 mA	
Output current	3.6 to 22 mA
Max resistive load at 9 Vdc	285 Ω @ 20.5 mA
Max resistive load at 24 Vdc	960 Ω @ 20.5 mA
Fail mode Low/High	3.6 / 22 mA

IO-Link interface	
Standard	IEC61131-9
Communication speed	38.4 Kbaud



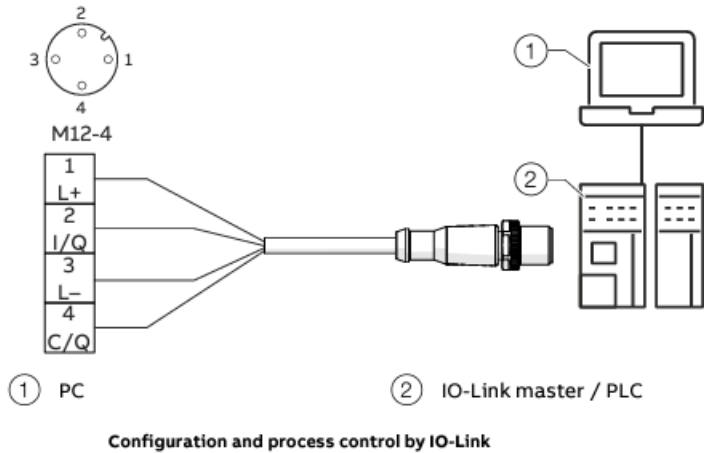
Output (IO-Link) transmitter wiring:



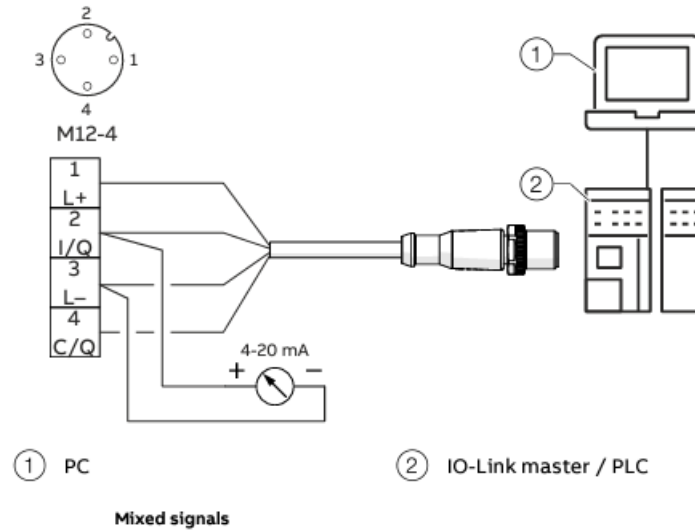
P-100 Series & IO-Link communication

IO-Link interface – connection technology specific to Pxx100

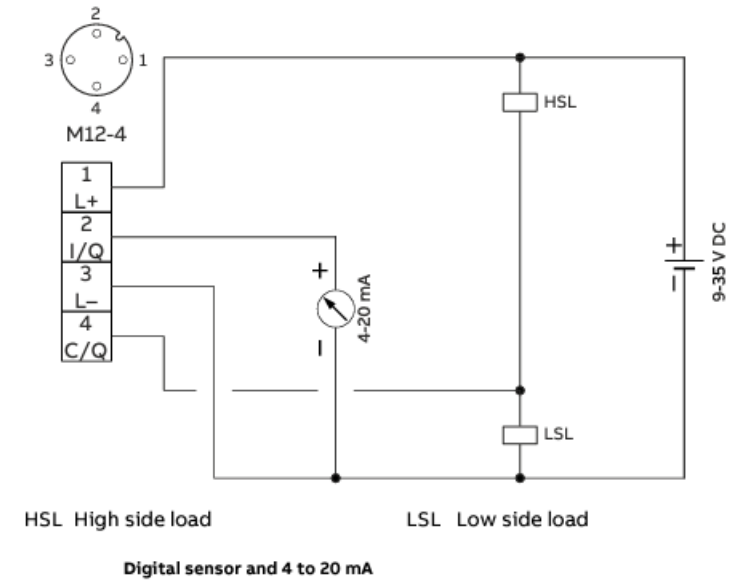
IO-Link® only



IO-Link® and current output 4 to 20 mA (*)



Digital output & current output 4 to 20 Ma (*)



P-100 Series & IO-Link communication

IO-Link Protocol (IODD Software)

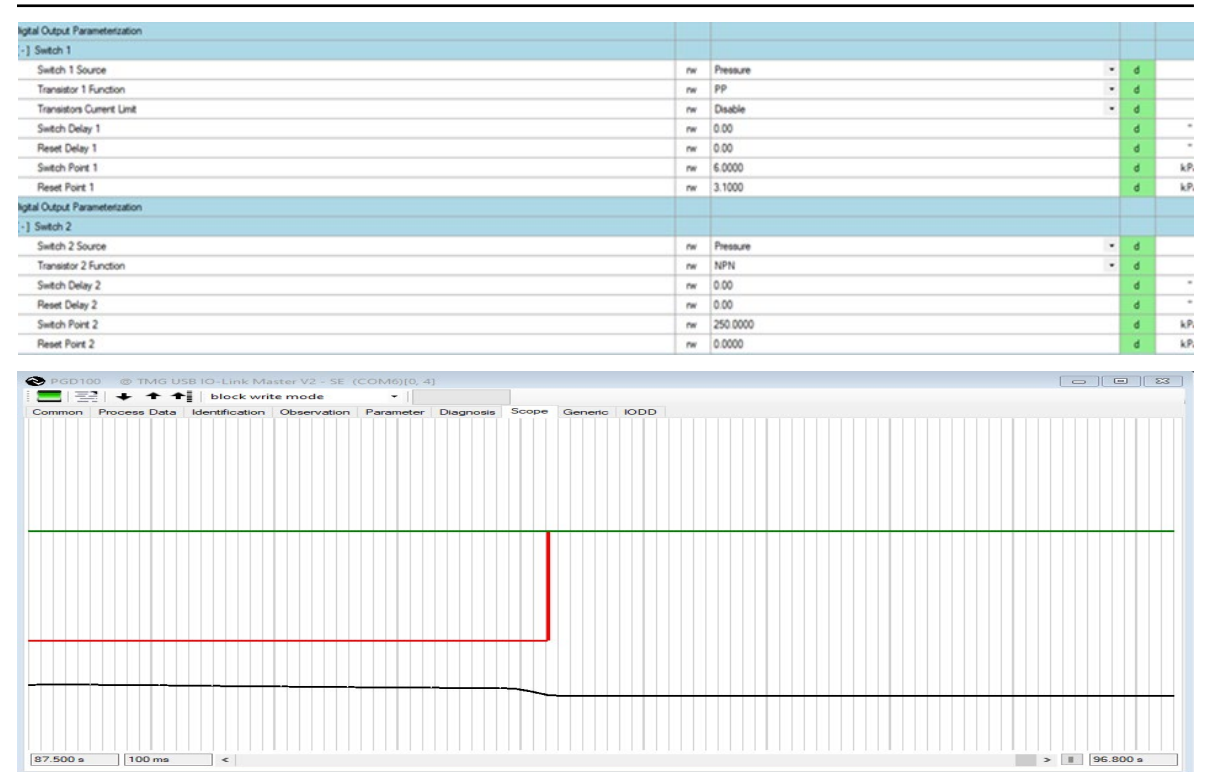
IO-Link «Common Profile»

1st output:

- IO-Link communication
- Adjustable Thresholds: Values, Window , N-Closed, Open etc.
- Switch Functions: NPN, PNP, PP mode
- Switch Point & Delay
- Current limiter on outputs

2nd output:

- Same functionality of output 1st (excluding communication)
- 4-20 mA current output
- Alarm output



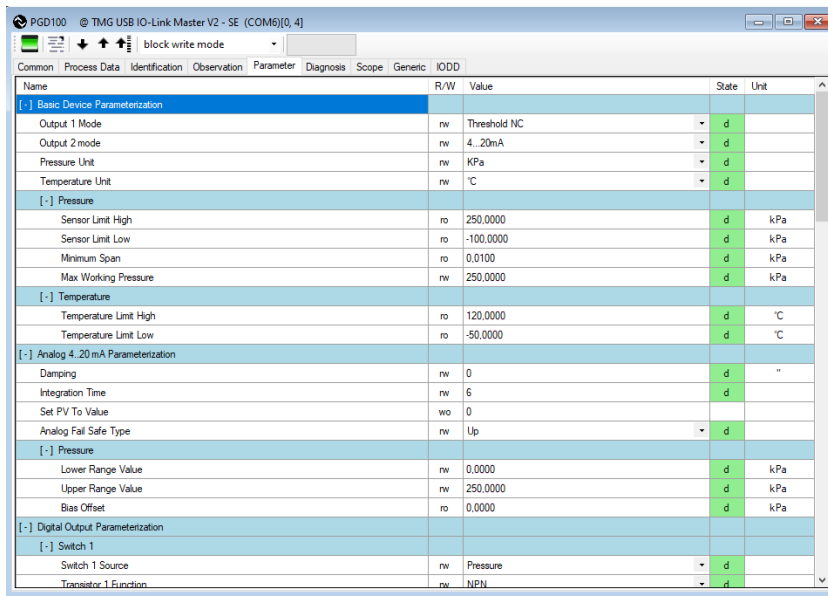
P-100 Series & IO-Link communication

IO-Link Protocol (IODD Software)

IO-Link «Common Profile» and...

All the basic pressure transmitter features we have on device Hart based are also available on IO-Link protocol, hence:

- Sensor trimming
- Trimming 4-20mA
- Range, Wet range
- PV bias
- Reset to default
- Damping
- Simulations
- Etc.



[-] Display Parameterization				
Short Tag	rw			d
HMI BackLight	rw	Off		d
HMI Language	rw	EN		d
HMI Contrast	rw	50		d
HMI Mode	rw	Two Lines With Bargraph		d
HMI Line 1 View	rw	Pressure		d
HMI Line 2 View	rw	Current		d
HMI Bargraph View	rw	Out %		d
Num Decimals Line 1	rw	2		d
Num Decimals Line 2	rw	2		d



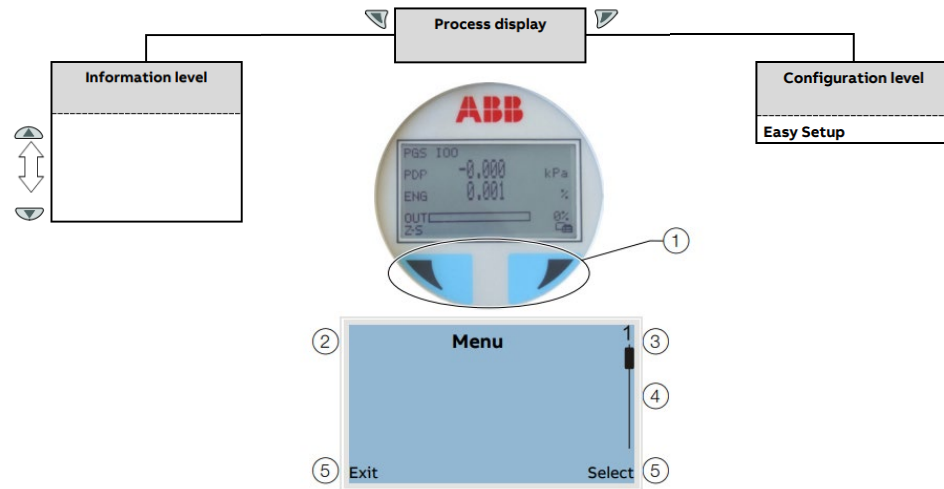
In addition on Pxx100 only is available:

- Smart Backlight, on, off, blink in case of failure.
- Data storage (Data is automatically restored)

P-100 Series & IO-Link communication

LCD display operation

Menu Navigation & Levels



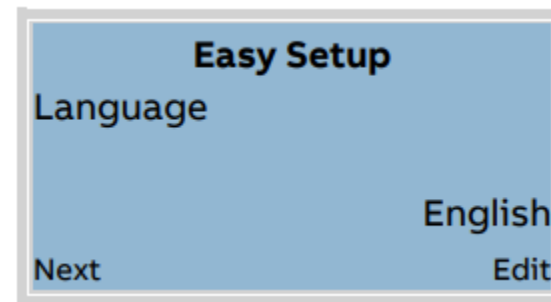
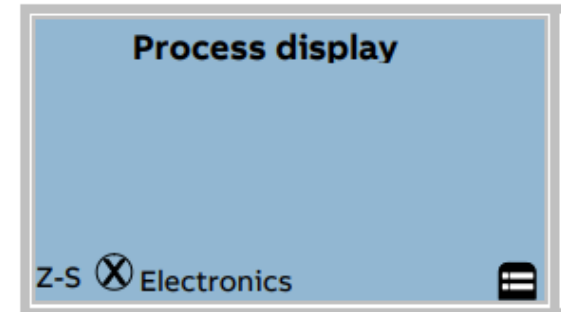
- (1) Operating buttons for menu navigation
- (2) Menu name display
- (3) Menu number display
- (4) Marker for indicating relative position within the menu
- (5) Display showing current functions of **left & right** operating buttons

Control buttons functions

Different functions can be assigned to the and operating buttons:

Button	Meaning
Exit	Exit menu
Back	Go back one submenu
Cancel	Cancel a parameter entry
Next	Select the next position for entering numerical and alphanumeric values

Pressing **left button** for approximately 3 s leads to the submenu for Zero and Span, showing letters Z&S respectively in the left and right bottom corners.



Button	Meaning
Select	Select submenu / parameter
Edit	Edit parameter
OK	Save parameter entered

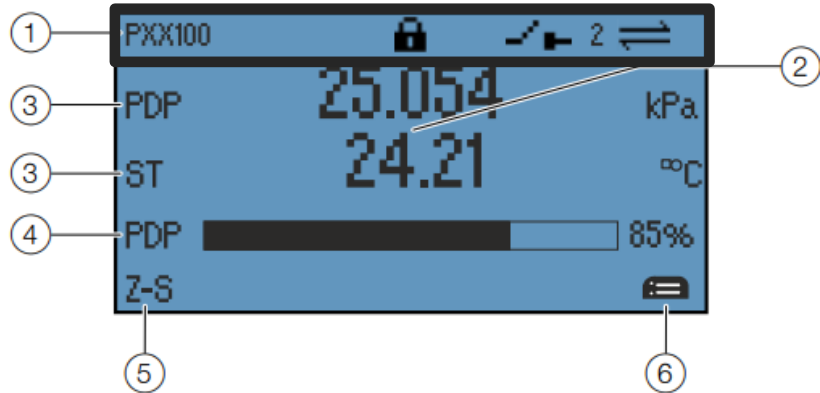
In order to access the sub-menu for configuration and diagnostic, press the **right button** for approximately 8 s from operating mode view.

P-100 Series & IO-Link communication

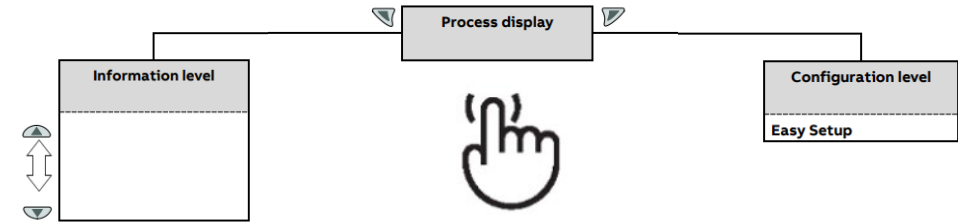
Process display

Process Display

The process display shows the current process values. From the level of the process display, you can branch out into two menu levels: 1) information level; 2) configuration level:



- ① Row displays the IO-Link short tag and icons for the device status
- ② Current process value (one or two lines)
- ③ ID of process variables
- ④ Bargraph
- ⑤ Zero / Span setting with
- ⑥ Enter 'Easy Set-up' menu with



LCD Display “Row 1”

“Row 1” displays the following information:

- 1) The IO-Link short TAG, as a string of maximum 8 characters.
- 2) Icons for the device status according to the following table:

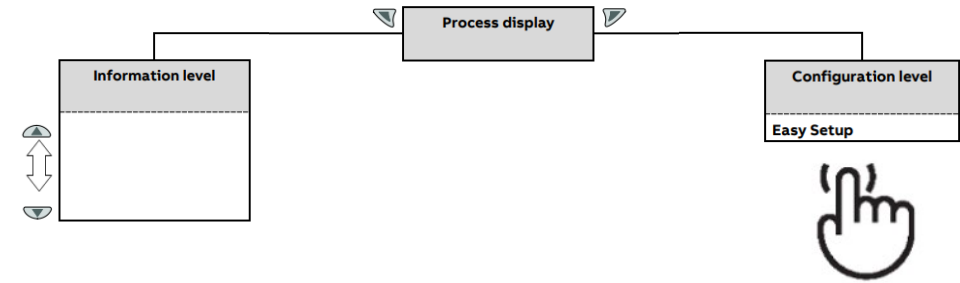
Icon	Description
	Shows a low output of the CQ value (transistors' state varies according to the chosen switch configuration)
	Shows a high output of the CQ value (transistors' state varies according to the chosen switch configuration)
	Shows up when the pin is set in current out mode
	Shows up when the device is connected to master via IO-Link
	Shows up when the IO-Link connection has been interrupted
	Shows up when local parametrization is set to Locked or write protect is enabled
	Shows up when local user interface is set to Locked

P-100 Series & IO-Link communication

Easy Set-Up operation

Easy Set-Up menu

A simple, smartphone-like approach, for the configuration menu*.
Essential and of easy interpretation.



QR code functionalities

3 QR codes available for advanced operation on the device:



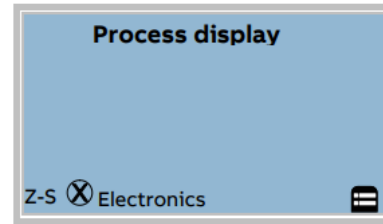
- Documentation QR Code
- DAD – Digital Advanced Diagnostic QR Code
- Channel Partner QR Code

P-100 Series & IO-Link communication

Information level

Error messages on the LCD display

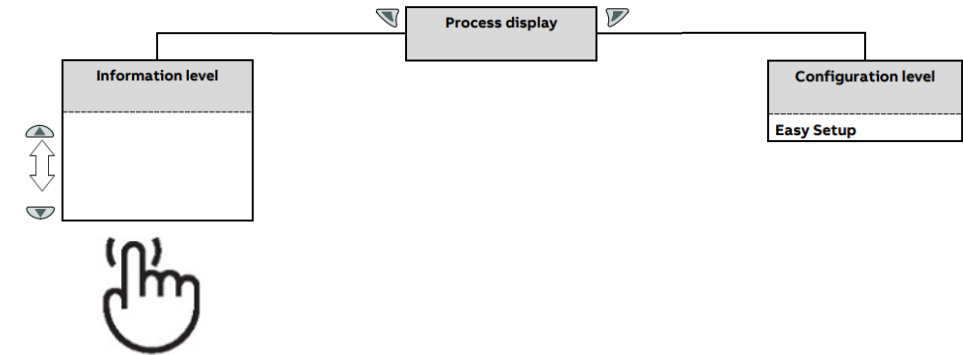
From the operating mode view, press the right button for approx. 8 s, then pushing the left button, the display enters in the local diagnostic menu displaying the status and device health.



In the event of an error, a message consisting of a symbol and text (e.g. Electronics) appears at the bottom of the process screen.

The error messages are divided into four groups in accordance with the NAMUR classification scheme.

Symbol	Description
	Error / failure
	Function check
	Outside of the specification
	Maintenance required



QR code Digital Advanced Diagnostic (DAD)

Digital Advanced Diagnostic (DAD) QR Code is an option which allows the user to retrieve information about device status directly in the field.



With DAD activated (only with backlight on) and in presence of a failure / malfunction, the device will alternatively show the operator page with the standard diagnostic message and a QR code that user can scan using any QR code reader.

By scanning the QR code, user will have access to a specific .pdf format document indicating the suggested action to be taken to resolve the failure / malfunctioning.

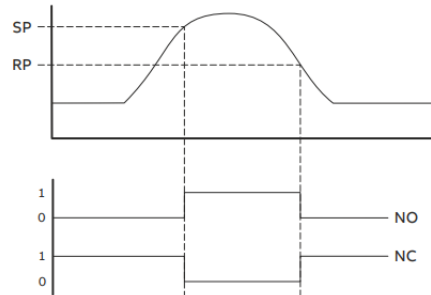
P-100 Series & IO-Link communication

Output configuration on HMI (...and IO-link)

Outputs 1 & 2 - Threshold Mode (NC,NO)

All parameters can be configured via IO-LINK. Only some of these can be configured via the HMI menu. All functions can be set independently for each channel (except for the Current limiter value, which is common to both outputs).

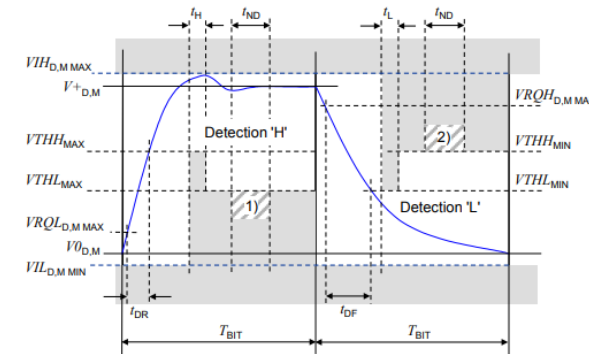
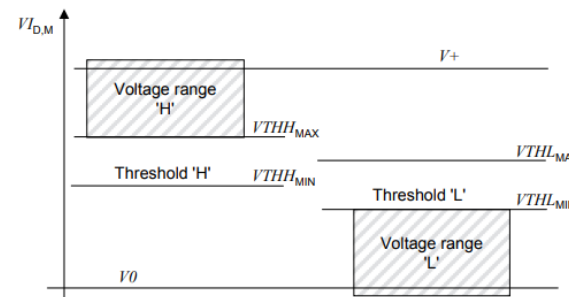
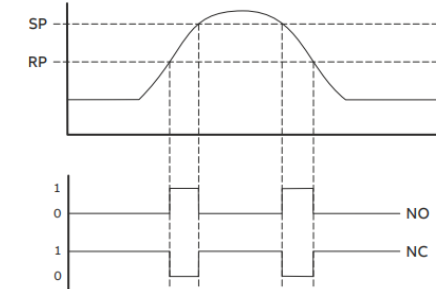
Menu / Parameter	Description	IO-Link	HMI
Switching Point 1 / 2 Reset Point 1 / 2	In this menu/window it is possible to set the intervention points (Set and reset points) of the digital outputs (Output 1 and Output 2) when activated. Values	•	•
Output 1 Mode / Threshold NC Output 1 Mode / Threshold NO	In this mode the output is activated when the input value reaches the SET point and is deactivated when the input value drops below the RESET point. In this way a hysteresis effect is obtained on the output. It is also possible to select the NC (normally closed) or NO (normally open) output to obtain an inversion of the logic function.	•	•
Output 2 Mode / Threshold NC Output 2 Mode / Threshold NO			



Output 1 & 2 – Windowed Mode (NC,NO)

- Output 1 Mode / Windowed NC
- Output 1 Mode / Windowed NO
- Output 2 Mode / Windowed NC
- Output 2 Mode / Windowed NO

In this mode the output is activated when the input value is between the SET point and the RESET point. In this way the output will be activated only in the desired window. It is also possible to select the NC (normally closed) or NO (normally open) output to obtain an inversion of the logic function.



P-100 Series & IO-Link communication

Output configuration on HMI (..and IO-link)

Output 2 – Alarm Beacon & 4-20 mA

All parameters can be configured via IO-Link. Only some of these can be configured via the HMI menu. All functions can be set independently for each channel (except for the Current limiter value, which is common to both outputs).

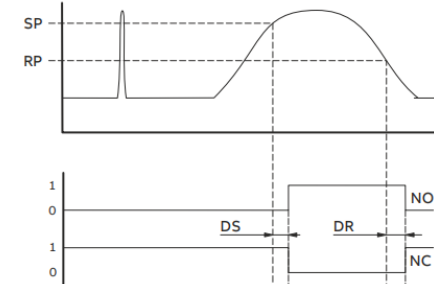
In the “Alarm Beacon” mode the output is activated when a fault or a diagnostic is detected by the device. The diagnostics that can generate a switching of the output can be selected as desired.

Menu / Parameter	Description	IO-Link	HMI
Output 2 Mode / Alarm Beacon	In this mode the output is activated when a fault or a diagnostic is detected by the device. The diagnostics that can generate a switching of the output can be selected as desired. This feature is only available on OUTPUT 2.	•	•
Output 2 Mode / 4-20mA	In this mode the output is used for the generation of 4 to 20 mA. The current output is non-passive; therefore it does not require an additional power supply. The maximum load is proportionate to the supply voltage (see electrical specifications). This feature is only available on OUTPUT2. There is also a function for readback the current generated to signal any connection problems (for example output 2 not connected to the DCS). As for a normal 4 to 20mA transmitter, all Ranging, trimming, fail mode, etc. operations can be performed on the output.	•	•

Output 2 – Backlight & Switches Delay

The Backlight operating mode can be changed to adjust visibility and power consumption. It is possible to set the backlight ON, OFF, ON KEY PRESS, or BLINK in case of FAILURE. The backlight flashes when a fault or a diagnostic is detected by the device to signal the problem remotely (it is possible to select whether the default is on or off).

Backlight	The Backlight operating mode can be changed to adjust visibility and power consumption. It is possible to set the backlight ON, OFF, ON KEY PRESS, or BLINK in case of FAILURE. In this latter mode, the backlight flashes when a fault or a diagnostic is detected by the device to signal the problem remotely (it is possible to select whether the default is on or off).	•	•
Switch Delay 1 Reset Delay 1	It is possible to introduce an output switching delay on both the rising and falling edges. The values on the two fronts can be different (up to 60 s). The delay feature also introduces a filtering effect to eliminate glitches or peaks shorter than the delay time. This delay value acts only on the switching of the outputs and not on the pressure measurement (which uses damping).	•	—
Switch Delay 2 Reset Delay 2		•	—



P-100 Series & IO-Link communication

Output configuration

Output 2 – Alarm Beacon & 4-20 mA

All parameters can be configured via IO-LINK. Only some of these can be configured via the HMI menu. All functions can be set independently for each channel (except for the Current limiter value, which is common to both outputs).

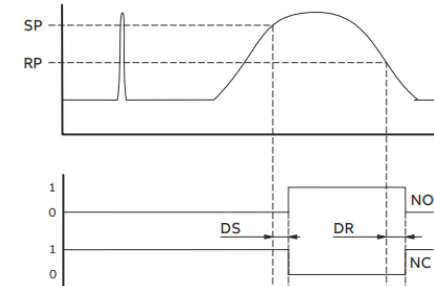
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Output 2 – Backlight & Switches Delay

The Backlight operating mode can be changed to adjust visibility and power consumption. It is possible to set the backlight ON, OFF, ON KEY PRESS, or BLINK in case of FAILURE. The backlight flashes when a fault or a diagnostic is detected by the device to signal the problem remotely (it is possible to select whether the default is on or off).

Backlight	The Backlight operating mode can be changed to adjust visibility and power consumption. It is possible to set the backlight ON, OFF, ON KEY PRESS, or BLINK in case of FAILURE. In this latter mode, the backlight flashes when a fault or a diagnostic is detected by the device to signal the problem remotely (it is possible to select whether the default is on or off).	•	•
Switch Delay 1 Reset Delay 1	It is possible to introduce an output switching delay on both the rising and falling edges. The values on the two fronts can be different (up to 60 s). The delay feature also introduces a filtering effect to eliminate glitches or peaks shorter than the delay time. This delay value acts only on the switching of the outputs and not on the pressure measurement (which uses damping).	•	—
Switch Delay 2 Reset Delay 2		•	—



P-100 Series & IO-Link communication

Outlook of IO-Link benefits

Open standard according to IEC 61131-9

- Devices can be integrated in the same way in all commonly used fieldbus systems and automation systems

Tool-supported parameter assignment and central data management

- Fast configuring and commissioning
- Easy creation of up-to-date plant documentation, including for sensors/ actuators

Simple, standardized wiring and a significantly reduced variety of interfaces for sensors/actuators

- Standardized uniform interface for sensors and actuators irrespective of their complexity (switching, measuring, multi-channel binary, mixed signal, etc.)
- Reduced variations and inventory
- Fast commissioning and reduced space requirement
- Any combination of IO-Link devices and sensors/ actuators without IO-Link on the IO-Link master

Consistent communication between sensors and the controller

- Access to all process data, diagnostic data, and device information
Access to device-specific data and remote diagnostics supported

Consistent diagnostic information down to the sensor level

- Reduced effort for troubleshooting and minimized failure risks

Dynamic change of sensor/actuator parameters by the controller or the operator on the HMI

- Reduced downtimes for product changeover

Automatic parameter reassignment for device replacement during operation

- Minimized downtimes and allows device replacement by untrained personnel without additional tools

Integrated device identification

- Identification of the embedded devices
Ensuring the quality of results in production and manufacturing in the event of device replacement

—

P-100 Series key propositions

Pioneering digital
connectivity

PxS100, PxD100 – The Essential Pressure Transmitters

Features and benefits

FUNCTIONAL ADVANTAGES

- Backlit Touch display
- Digital Access Diagnostics (Dynamic QR Code)
- Label QR code for easier documentation access

WIDE ENVIRONMENTAL & MEASUREMENT CONDITIONS:

- Ex Intrinsically safe,, Drinking water approvals
- Diaflex and H-Shield* seal nano-coating
- IP66/67/68/69K, sturdy and compact AISI Housing
- Xenoy™ housing with 3 threads: M16, ½ NPT*, M20x1,5

GO-TO-MARKET ADVANTAGES

- Double-threaded connection & adapters
- Threaded G Flanges for direct mount seal-equivalent installation
- M26 manifold compatibility

CONFIGURATION AND COMMUNICATION

- FIM, DD & DTM
- 4...20 mA / HART& IO-Link protocol
- Full local configuration via display

CUSTOMER BENEFITS

Higher competitiveness thanks to the targeted price / feature ratio fitting even aggressive price tiers.

Lower cost of ownership due to ABB nano coatings increasing resistance to abrasion and diaphragm inflation

Increased productivity thanks to the flexibility in process connections coupled to standard off-shelf device

Increased productivity thanks to the fast availability on the market and Digital Access Diagnostics

PxS100 – Series & Process Connections Flexibility

How to maximize the capability to fit different processes?

CONFIGURATION

DOUBLE
THREADED
CONNECTION
+
THREADED
ADAPTERS



FRONT
BONDED
CONNECTION
+
THREADED
FLANGES



THREADED MOUNTING



RESULTS

One single sensor can drive up to more than **300** equivalent models combining adapters, turndown and certification options

One single sensor can drive up to more than **400** equivalent direct mount seals combining flanges, turndown and certification options

PxD100, The Essential Remote Seal Pressure Transmitter

Superior construction technology

MATERIALS & AVAILABLE GEOMETRIES

Stainless Steel 316L

Hastelloy C276

Tantalum

Hastelloy C2000

Super Duplex UNS S32750 to ASTM SA479

Inconel 625

Monel 400

Stainless Steel PFA (Teflon) Coated

Stainless Steel Gold plated

Diaflex (anti abrasion treatment)

Tailor-made design items



**FLANGES
ACCORDING
TO:**

Diaphragm
seal with fixed
flange

Diaphragm seal
with rotating
flange

Wafer / Pancake
style diaphragm
seal with side
handle.

ASME

S26FA

S26RA

S2WA

EN

S26FE

S26RE

S26WE

PxF100, The Essential Pressure Transmitter in F&B

Features and Benefits

FUNCTIONAL ADVANTAGES

Backlit Touch display

Digital Access Diagnostics (Dynamic QR Code)
& documentation QR code

3A, EHEDG, FDA, 1935/2004 compliant connections

WIDE ENVIRONMENTAL & MEASUREMENT CONDITIONS:

Ex Intrinsically safe & SIL 2/3

Diaflex nano-coating

IP66/67/68/69K, sturdy and compact AISI Housing

Xenoy™ housing with 3 threads: M16, ½ NPT*, M20x1,5



GO-TO-MARKET ADVANTAGES

Universal connection and hygienic adapters for CIP/SIP
for up to 180 °C

Robust Stainless-steel housing and competitive plastic
housing

Standard accuracy of 0,1% and 0,075% extended option

CONFIGURATION AND COMMUNICATION

FIM, DD & DTM

4...20 mA / HART& IO-Link protocol

Full local configuration via display

CUSTOMER BENEFITS

Longer transmitter lifetime
thanks to stainless steel housing
and resistance to CIP / SIP

Lower cost of ownership due to ABB nano
coating, high resistance to abrasion and
opportunity for competitiveness on
plastic housing

Increased productivity thanks to the
flexibility delivered by hygienic adapters
coupled to the universal connections

Increased productivity thanks to
Digital Access Diagnostics and
availability of IO-Link protocol

PxF100, The Essential Pressure Transmitter in F&B

Abrasion resistance

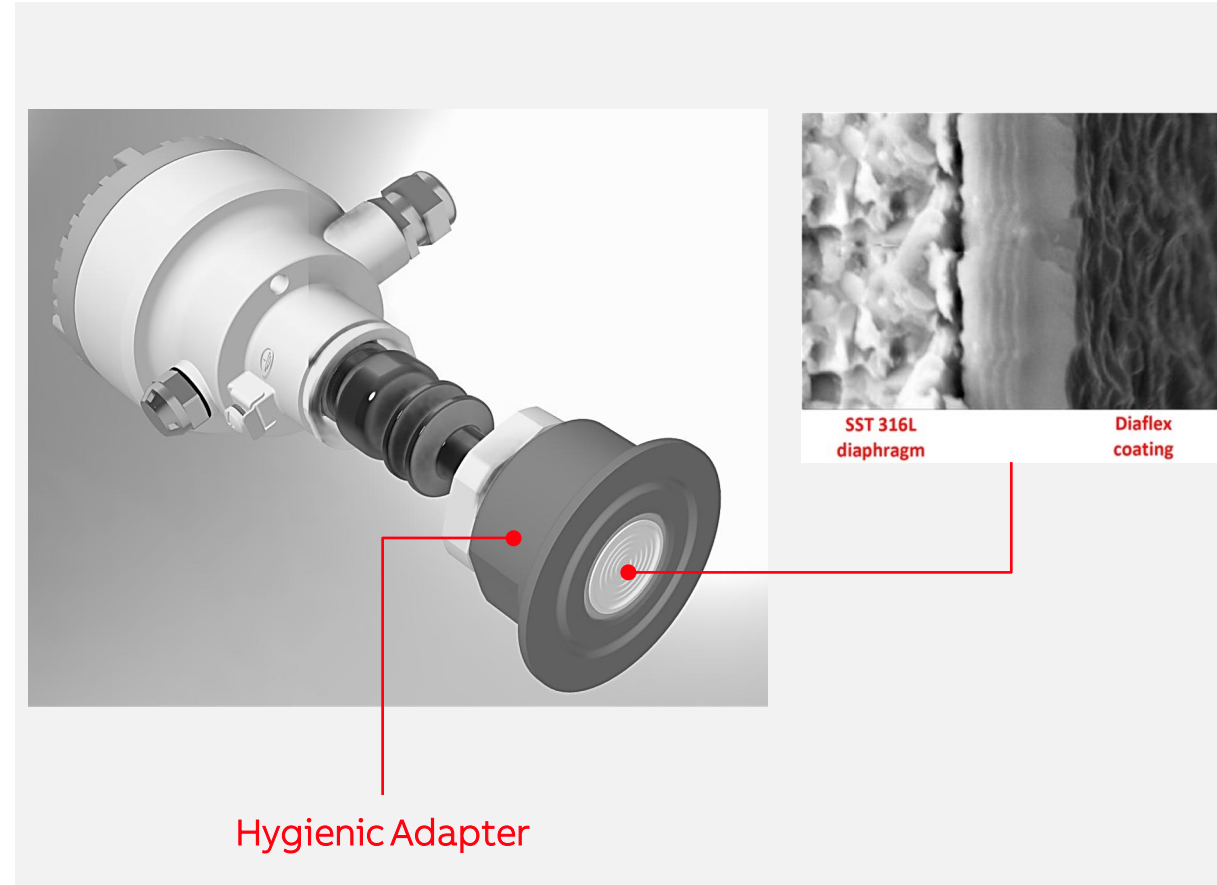
DIAFLEX

ABB's unique technology solution.

Extremely high hardness and low friction mechanical characteristics:

- Stable up to 600°C.
- Nano-structured coating
- Titanium base composite
- PVD Physical Vapor Deposition - LARC technology
- Thickness : 3-4 μm
- 4000 HV rating on Vicker Hardness scale

Diaflex is available on front bonded connection, either with AISI or HC diaphragm substrate. Diaflex has been tested against the requirements of 1935/2004 for food contact



PxF100, The Essential Pressure Transmitter in F&B

Flexibility

COST OPTIMIZATION AND INCREASED AVAILABILITY

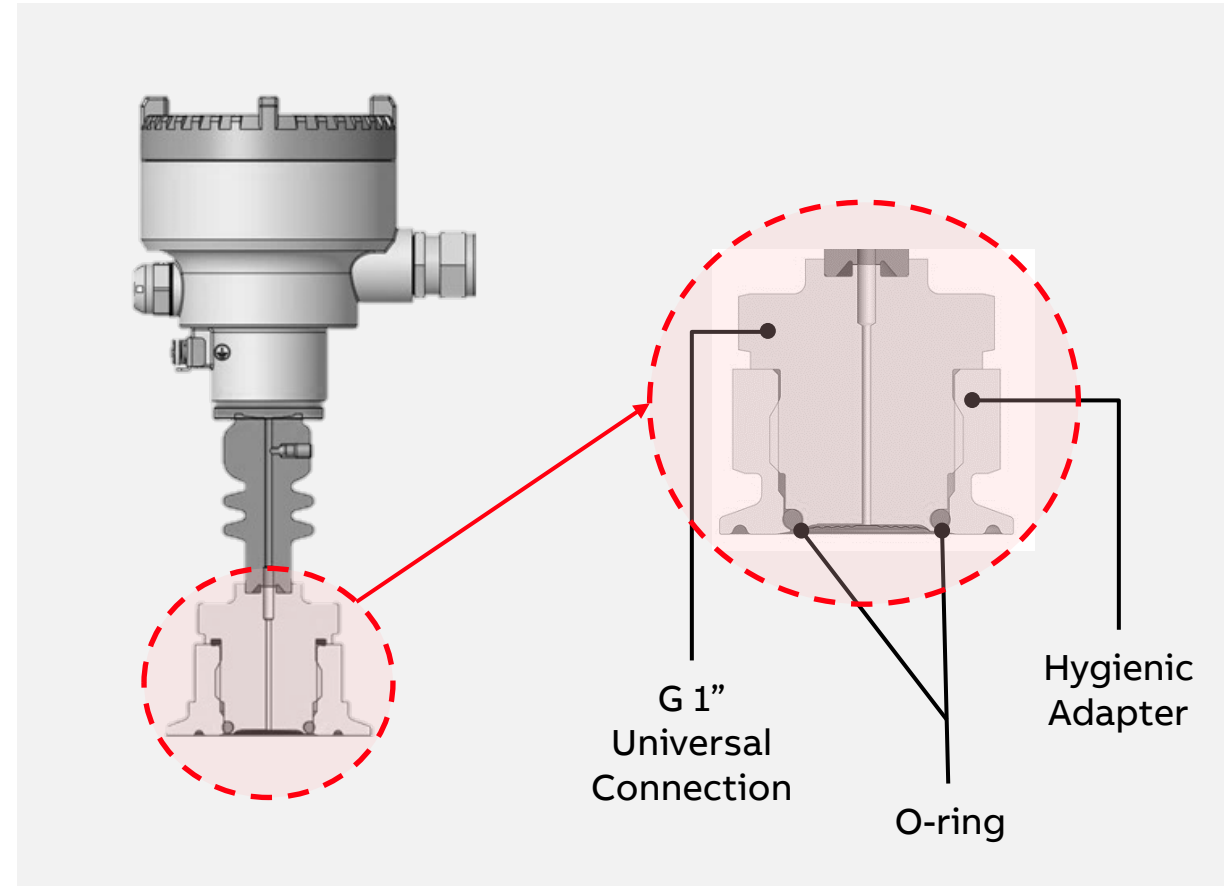
Front bonded universal connection has been designed fit multiple hygienic adapters to minimize the number of devices on stock and flexibly manage installations.

Universal connection can be ordered with diaphragm in:

- AISI 316L
- HC 276
- Diaflex on AISI
- Diaflex on HC

The combination of Universal Connection and ABB hygienic adapters is approved under 3A and EHEDG.*

ABB hygienic adapters can be ordered as single items like PxS100's flanges and threaded adapters



PxP100, The Essential Pressure Transmitter in Pulp&Paper

Features and benefits

FUNCTIONAL ADVANTAGES

- Backlit Touch display
- Digital Access Diagnostics (Dynamic QR Code)
- Label QR code for easier documentation access

WIDE ENVIRONMENTAL & MEASUREMENT CONDITIONS:

- Intrinsically safe, General Purpose
- Diaflex seal nano-coating
- IP66/67/68/69K, sturdy and compact AISI Housing
- Xenoy™ housing with 3 threads: M16, ½ NPT*, M20x1,5

GO-TO-MARKET ADVANTAGES

- Welding spud adapters
- Universal threaded G Flanges for direct mount seal-equivalent installation
- Tailored accuracy on P&P segment

CONFIGURATION AND COMMUNICATION

- FIM, DD & DTM
- 4...20 mA / HART & IO-Link protocol
- Full local configuration via display



CUSTOMER BENEFITS

Higher competitiveness thanks to the targeted price / feature ratio fitting even aggressive price tiers.

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Increased productivity thanks to the flexibility in process connections coupled to standard off-shelf device

Increased productivity thanks to the fast availability on the market and Digital Access Diagnostics

PxP100, The Essential Pressure Transmitter for P&P

Superior construction technology

MATERIALS & AVAILABLE GEOMETRIES

Stainless Steel 316L

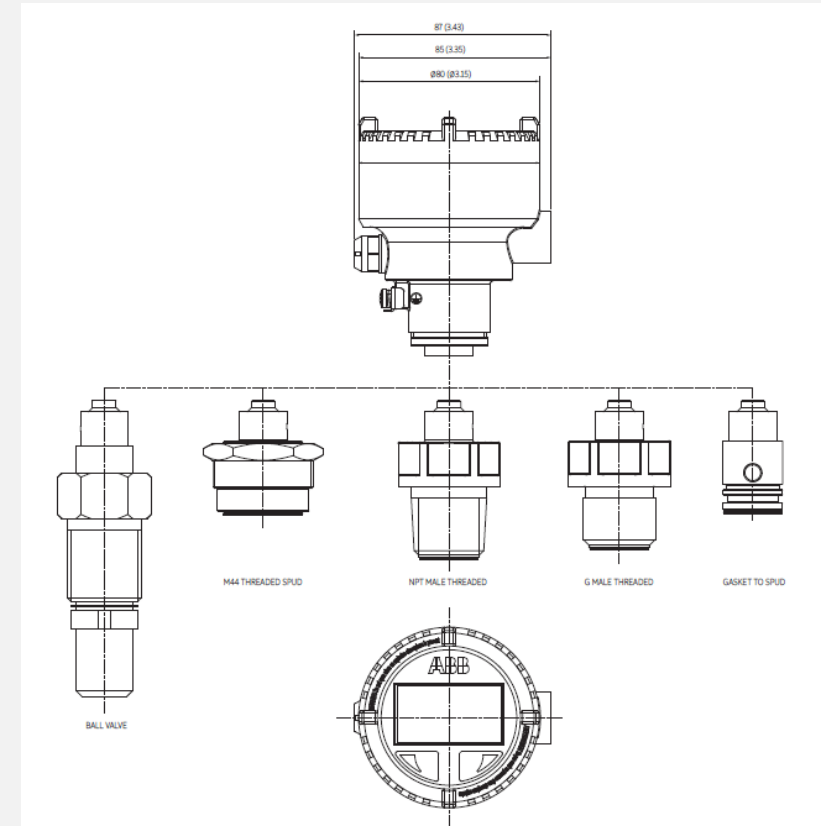
Hastelloy C276

Diaflex antiabrasion coating on AISI 316 L ss

Diaflex antiabrasion coating on Hastelloy C-276

Duplex (pending)

Threaded diaphragm seals
for Pulp & Paper applications



PxP100, The Essential Pressure Transmitter for P&P

Pressure Measurement Made Easy – top quality design

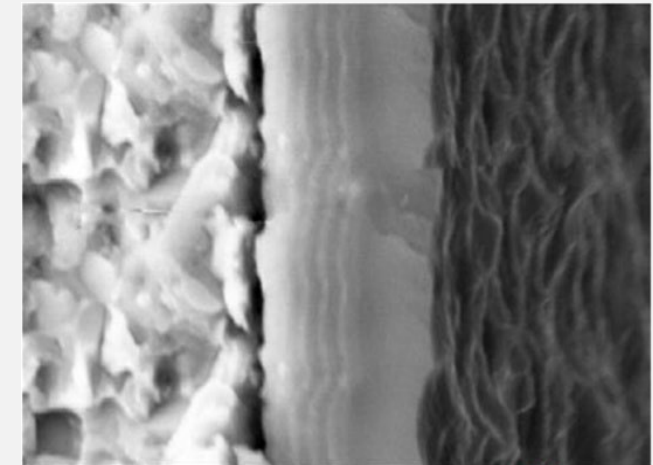
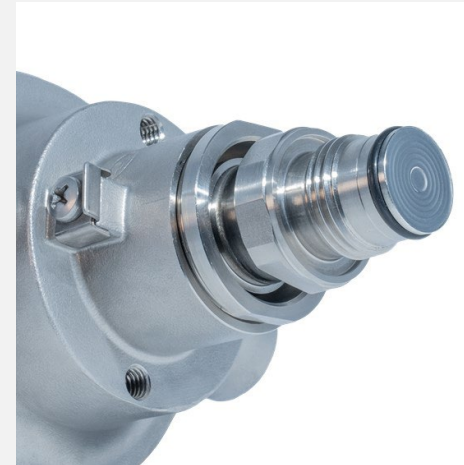
DIAFLEX

ABB's unique technology solution.

Extremely high hardness and low friction mechanical characteristics:

- Stable up to 600°C.
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- PVD Physical Vapor Deposition - LARC technology
- Thickness : 3-4 μm
- 4000 HV rating on Vicker Hardness scale

Diaflex is available on either with AISI or HC diaphragm substrate.



SST 316L
diaphragm

Diaflex
coating

Novelty

P-100 Series & Innovation

Xenoy™ Housing – A game changer

A NEW ENTRY STANDARD HOUSING

ABB P-100 series with Xenoy™ Housing and cover in polycarbonates, delivers a device with a weight half of stainless-steel housing (approx. 500 gr.) plus the ABB “state of art” technology Through The Cover (TTC) capability for device configuration through the easy-set menu without the need to open the cover.

- Housing & Cover Materials: Xenoy™ (PTB & PC compounds) and Cover in Polycarbonate (PC)
- Housing color: RAL9002 (Grey-White)
- Approval: General Purpose
- Protection: IP65/IP66/67
- Process temperature range: -40°C/+100°C
- Ambient temperature range (wo/w LCD): -40°C/+85°C
- Product Identification: Adhesive polycarbonates label(s)
- Certified Circular polymers: Via advanced recycling of used plastics
- Weight half of stainless-steel housing (approx. 500 gr.)
- Through The Cover (TTC) capability



Please note

We reserve the right to make technical changes or modify the contents of this presentation without prior notice.

ABB